

## **REMARKS**

Claims 1-3, 6-14, 17-32 are pending in this application for the Examiner's review and consideration upon entry of this paper. New claims 29-32 have support in the application as-filed, for example at Example 2, Table 3. Applicants respectfully request entry of this response and allowance of the claims. No new matter has been added.

### **I. The Rejection Under 35 U.S.C. § 103 Should Be Withdrawn**

Claims 1-3, 6-14, and 17-28 are rejected on pages 2-6 under 35 U.S.C. § 103(a) as allegedly obvious over Lin, *Proceedings of the 1999 International Palm Oil Palm Oil Congress (Chemistry and Technology)*, Feb. 1-6, **1999**, 82-93 ("Lin") as evidenced by *Baileys Industrial Oil and Fat Products*, Vol. 1, Fourth Ed., Swern ed., John Wiley & Sons, New York, **1979**, pp. 383, 394, 399, and 430 ("Bailey's") and in view of Taylor, *Oleagineux*, 31(2), **1976**, pp. 73-79 ("Taylor") and Kellens *et al.* *Proceedings of the 1996 PORIM International Palm Oil Congress*, Palm Oil Research Inst., Kuala Lumpur, Malaysia, pp. 335-345 ("Kellen").

The U.S. Supreme Court has ruled in a unanimous opinion that a "narrow" and "rigid" TSM [teaching, suggestion, motivation] test is not the proper application of the non-obviousness doctrine of Section 103(a) of the Patent Act. *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007). According to the Supreme Court, "[t]o facilitate review, [the obviousness] analysis should be made explicit. But it need not seek out precise teachings directed to the challenged claim's specific subject matter, for a court can consider the inferences and creative steps a person of ordinary skill in the art would employ." The Court further elucidated, "[a] patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art." "There is no necessary inconsistency between the [teaching, suggestion, motivation] test and the Graham analysis. But a court errs where it transforms general principle into a rigid rule limiting the obviousness inquiry." The Federal Circuit stated that the test for prima facie obviousness in an invention concerning chemical compounds "is consistent with the legal principles enunciated in *KSR*," and thus, "in cases involving new chemical compounds, it remains necessary to identify some reason that would have led a chemist to modify a known compound in a particular manner to establish a prima facie obviousness of a new claimed compound." *Takeda Chemical Industries, LTD et al. v. Alphapharm PTY., Ltd.*, 492 F.3d

1350 (Fed. Cir. 2007). Moreover, in *Ortho-McNeil Pharmaceutical, Inc. v. Mylan Laboratories, Inc.*, --- F.3d ----, 2008 WL 834402 (Fed. Cir. 2008), the Federal Circuit indicated that *KSR* posits a situation with a finite, and in the context of the art, small or easily traversed, number of options that would convince an ordinarily skilled artisan of obviousness. However, according to the Federal Circuit, the ordinarily skilled artisan would have to have some reason to select (among several unpredictable alternatives) the exact route that produced [the compound].”

The claims encompass blending and fractionation processes for obtaining an oil composition and novel compositions obtained therefrom. Allegations asserted in the office action lead Applicants to believe that the Examiner is not fully appreciating the inventive concept encompassed by the pending claims. For example, the office action alleges “palm olein is a solid fraction that is crystallized during the process and removed from the liquid oil fraction. It would not be expected to be present in the oil fraction of the claims.” (See Office Action at pages 5-6). However, for the purpose of clarification, palm olein is the liquid fraction obtained from process of fractionation of palm oil, and is not the crystallized fraction removed from the liquid oil. In the process of instant claims, the liquid fraction obtained can be called the olein, as it is the term for the liquid fraction of the process. Thus, the olein is present as the oil fraction of the claims, but it would be a different olein from that obtained through fractionation of palm oil or that disclosed in the references.

The office action alleges that “the use of oils in food would have been an obvious matter of choice with regard to the particular edible oil that was available.” (See Office Action at page 3).

However, this is not obvious to one of ordinary skill in the art based on the cited references because the specific use of the oil, for example, stearins in margarines require certain characteristics and properties, which are not achievable by just utilizing any vegetable fat and oil in any ratio or amount. For example, soybean oil, sunflower oil, corn oil, etc. are not utilized as margarine fat or shortening unless each has been processed to obtain solids, which could give certain structure required in plastic fats. The Examiner’s conclusory statement alleging that because the edible oils were available their use is obvious is incorrect. It is the specific property of the blend and the process, which affords the required structural characteristics needed in the stearin for the claimed compositions to be useful as a margarine fat or a shortening fat substitute. The processes known at the time of the invention required either hydrogenation or interesterification. However, such processes not only involve higher

cost, but partial hydrogenation results in trans fatty acids and interesterification results in new glyceride structures. Thus, the process claimed in the invention is far cheaper, easier, and without change of glyceride structures. The original natural glyceride structures are retained in the products, only they have been shifted differentially into the liquid or the solid phase. Therefore, the products obtained, specifically the stearins are not obvious a matter of choice for any food products, but are utilized as such because of the suitability in terms of composition and solid fat contents.

Moreover, while composition is a consideration, the actual physical properties of the fat is the more crucial point, which defines whether the oil can be used, for example, in margarine or shortening. In this case, Applicants wish to point out that the stearins obtained from the process are stearins, which are most suited for margarine and shortenings and that they can be used directly without further formulation. However, based on the disclosure of the cited references, it is expected that vegetable oils, if to be used as margarine or shortening, must be formulated from some blends of oil and solid fat, giving the plasticity or the micro structure required. In this case, the stearin obtained has high solids relevant for the puff margarines as in palm oil with sunflower oil/corn oil/soybean oil at ratio 9:1. Or in other cases, the stearin obtained has solids for the use directly in shortenings, where at 20°C, the solids are between 20% to 40%. One of ordinary skill in the art based on the cited references would not have a reasonable expectation that any vegetable oil obtained would be able to find a suitable use in the food industry, if the properties are not right. Therefore, use of the claimed compositions in foods can only happen when the formulation is correct.

The office action further states "it is appreciated that the exact ratio of saturated fatty acids to monounsaturated fatty acids to polyunsaturated fatty acids is not mentioned [in the cited references], it would have been obvious to calculate and adjust this value from the fatty acid content of the palm/oil vegetable oil blend. Again, one of ordinary skill in the art having knowledge of the detail of preparing the claimed compositions would realize that it is not easy to just adjust the ratio of blends in order to obtain the new ratio of the olein and stearin such that the olein obtained has a ratio of 1: 1: 1, or that the stearin could be utilized as margarine or shortenings directly, without further addition of other vegetable oils, or further processing.

The processes recited by the claims are not obvious based on the cited references. Indeed, normal fractionation cannot achieve the crystallisation features, which will give the kind of crystals suitable for filtering. If this cannot be achieved, the crystals will slip through

and one does not get the composition of the olein. In addition, this means that the stearin composition will not be suitable type for making the type of food products that was specifically mentioned in the claims, such as for infant fat formula, and for margarine and shortening.

Therefore Lin, Taylor, Bailey, and/or Kellen do not provide sufficient information to one of ordinary skills to establish the process to make the products in the claims. In addition, the fatty acid compositions of palm olein given in Table 2 of Lin's paper, have no bearing or significance in this submission. The fatty acid composition given in Taylor or Bailey only provide information estimating blends and not isolating compositions, and Kellens yield values are limited fractionating palm oil and not relevant in cases of other oil mixtures. Therefore, Applicants respectfully submit that it would not have been obvious to adjust to the ratios desired, when one of ordinary skills in art would not succeed in getting the product using the techniques disclosed in the cited references alone or in combination..

Moreover, the office action alleges that the fact that Lin's blend is different from the claims is not alone seen to constitute unobviousness. In addition, the office action alleges that a blend of palm oil and sunflower oil or corn oil (7:3) appears to have a ratio of saturated to mono-unsaturated to polyunsaturated of (1:2:1). However, based on the disclosures of the references, one of ordinary skill in the art would have used the more simple approach of obtaining a 1:1:1 ratio by mere simple blending of oils, which in this respect would not be a 7:3 ratio, but would be other blending proportions depending on the oil composition used. Lin's data does not reveal the yield of the olein and stearin, and thus could not be obvious what the ratio of the olein would be.

As mentioned before, the information on yield disclosed in the references is not relevant to the claims, as the given data is for palm oil fractionation process. A different oil composition would be having different yield data, and would also vary depending on the process conditions. Thus, it would not be possible to have calculate the olein composition using yield data of disclosed in the references.

Finally, Applicants wish to summarize that the claims are nonobvious for at least the following reasons:

1. Oil compositions containing saturated fatty acid: monounsaturated fatty acids: polyunsaturated fatty acids in the ratio of 1: 1: 1 prepared by the processes as recited by the claims have never been disclosed or suggested.

2. Lin, Taylor, Bailey and/or Kellens alone or in combination fails to disclose or suggest fractionating blends of oils in this manner to obtain oils suited for direct usage in margarine, shortenings and milk fats. Moreover, Lin, Taylor, Bailey and/or Kellens does not disclose or suggest the process to obtain oils with the claimed fatty acid ratios. Applicants note that the claimed ratios comply with the AHA requirements.

3. There was no disclosure or suggestion based on the disclosures of Linn, Taylor, Bailey and/or Kellens to correct obtain the ratio of oleic and linoleic contents to use in order to obtain after fractionation, oils with ratio of 1: 1: 1, and oils suited for the specific use without further formulation required. This nonobviousness in the claimed process is due, for example, to unknown crystallization behavior of the oil mixtures at different cooling programs. For example intersolubility of the molecules of saturated triglycerides, monosaturated and monounsaturated triglycerides among the unsaturated triglycerides affects the way the crystals are formed.

For at least the foregoing reasons, Applicants respectfully submit that the rejection of claims 1-3, 6-14, and 17-28 under 35 U.S.C. § 103(a) as allegedly obvious should be reconsidered and withdrawn.

## **II. Conclusion**

It is respectfully submitted that all claims are now in condition for allowance, early notice of which would be appreciated. Should the Examiner disagree, Applicants respectfully request a telephonic or in-person interview with the undersigned attorney to discuss any remaining issues and to expedite the eventual allowance of the claims.

Except for issues payable under 37 C.F.R. 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310.

Respectfully submitted,

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